

CLAIMS

1. Apparatus comprising:

at least one sensor to detect radiation and to output image signals based on the
5 detected radiation; and

offset correction circuitry to compensate errors in the image signals and to output
corrected image signals,

wherein the offset correction circuitry includes means for providing a time-
varying compensation signal.

10 2. The apparatus of claim 1, wherein the means for providing a time-varying
compensation signal includes means for providing a different time-varying compensation
signal for each sensor.

15 3. The apparatus of claim 1, wherein:
the means for providing a time-varying compensation signal includes a capacitor;
and
the time-varying compensation signal is based on a charging and a discharging of
the capacitor.

20 4. The apparatus of claim 1, wherein the means for providing a time-varying
compensation signal includes a compensating source to compensate changes in the image
signals due to current-induced heating of the at least one sensor.

25 5. The apparatus of claim 1, wherein the means for providing a time-varying
compensation signal includes means for providing a variable current.

30 6. The apparatus of claim 5, wherein the means for providing the variable
current includes means for adding the variable current to the image signals such that an
average value of the variable current and the image signals remains constant during a
signal sampling period.

7. The apparatus of claim 1, wherein the means for providing a time-varying compensation signal includes means for providing a variable voltage.

8. The apparatus of claim 7, wherein the means for providing the variable
5 voltage includes means for adding the variable voltage to the image signals such that an average value of the variable voltage and the image signals remains constant during a signal sampling period.

9. A method for compensating errors in an image signal generated by at least
10 one sensor, comprising a step of adding a time-varying compensation signal to the image signal.

10. The method of claim 9, wherein the time-varying compensation signal is
different for each sensor.

11. The method of claim 9, wherein the time-varying compensation signal is a
variable current.

12. The method of claim 9, wherein the time-varying compensation signal is a
20 variable voltage.

13. The method of claim 9, wherein the step of adding includes a step of
generating the time-varying compensation signal by charging and discharging a capacitor
in a predetermined manner based on the image signal.

14. The method of claim 9, wherein the step of adding includes a step of
generating the time-varying compensation signal such that an average value of the time-
varying compensation signal and the image signal remains constant during a signal
sampling period.

15. The method of claim 14, wherein the time-varying compensation signal is
a variable current.

16. The method of claim 14, wherein the time-varying compensation signal is a variable voltage.

17. The method of claim 9, wherein:
5 the at least one sensor includes a plurality of sensors; and
the step of adding includes a step of generating the time-varying compensation signal based on non-uniformities of the sensors.

18. The method of claim 9, wherein the step of adding includes a step of
10 generating the time-varying compensation signal based on changes in the image signal due to current-induced heating of the sensor.